

*b5 covered*

an evaluating arrangement (17) for the two measuring signals for the simultaneous determination of at least two material properties, comprising the adhesion, the static and dynamic friction, the surface topography as well as the elasticity and rigidity.

*b6*

13. Raster probe microscope according to claim 3,  
characterized in that,  
the raster probe (1) is a point or tip (5) of a force microscope and/or of an optical near-field microscope.

*b7*

17. Process according to claim 14,  
characterized in that,  
the vertical oscillation or the vertical oscillations has/have a frequency of at least 10 Hz and an amplitude of at least 1 nm.

*b8*

19. Process according to claim 17,  
characterized in that,  
on the vertical oscillation (or oscillations) there is superimposed at least one second oscillation with a frequency of at least 1 kHz and an amplitude of at 0.1 nm.

*b9*

21. Process according to claim 14,  
characterized in that,  
the horizontal oscillation has a frequency of at least 500 Hz and an amplitude of at least 0.1 nm.

*b10*

23. Process according to claim 14,  
characterized in that,  
the raster probe (1) is brought into contact with the sample surface (30) with a determined normal or perpendicular force.

24. Process according to claim 14,  
characterized in that,  
for the evaluation of the measuring signals there is used a lock-in amplifier (17, 110) and/or a microcomputer (112).

25. Process according to claim 14,  
characterized in that,  
as raster probe (1) there is used the point or tip (5) of a force microscope and/or of an optical near-field microscope.

*b11*

27. Process according to claim 14,

*Bill Daniels*

characterized in that,

the raster probe (1) and/or the sample (15) are subjected simultaneously at least to a vertical and at least to a horizontal oscillation.

Respectfully submitted,

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March 3, 2003

Date